

Patent Claims

1. An apparatus for driving a separating element (3) which can be moved linearly and/or on curves and which, if required,
5 can be rotated and parked, and which is attached to at least two drive assemblies (10a, 10b, 10c, 10d, 10e, 10e and 90), which are guided in a guide rail (1) and are provided with supporting rollers (11, 12), at least the first drive assembly (10a, 10b, 10c, 10d, 10e, 10e) of which is provided with a
10 drive shaft (60) which is aligned at right angles to its running direction, and by means of which a drive wheel (25) can be rotated which engages in a toothed element (24) that is arranged along an inner wall of the guide rail (1),
characterized in that the first drive assembly (10a, 10b, 10c,
15 10d, 10e) is provided with an electric motor (18) which is arranged at right angles between the supporting rollers (11, 12) and whose motor shaft (183) is firmly coupled to the drive shaft (60).
- 20 2. The drive apparatus as claimed in claim 1, **characterized in that** the electric motor (18) is arranged in a motor housing (180) in which a transmission (19) is also integrated.
3. The drive apparatus as claimed in claim 1 or 2,
25 **characterized in that** the motor shaft (183) and the drive shaft (60) are integrally connected to one another, or in that a coupling apparatus (185), which is used to couple the motor shaft (183) and the drive shaft (60) and may be formed by means of flanges (63) which can be connected to one another,
30 is provided between the electric motor (18) and the drive wheel (25).
4. The drive apparatus as claimed in one of claims 1, 2 or 3,
35 **characterized in that** an attachment element (50) which is used for holding the separating element (3) is rotatably connected to the body (17) of the first drive assembly (10c, 10d, 10e), or is rotatably connected to the drive shaft (60) by means of a connecting apparatus (66, 68), or in that the attachment element (50) is mounted such that it can rotate within the

mounting apparatus (80) that is connected to the separating element (3), possibly a supporting profile (2).

5. The drive apparatus as claimed in claim 4, **characterized**
5 **in that** the drive shaft (60) is connected to a first flange element (66), which is in the form of a hollow cylinder and is used for bearing a second flange element (68), which is in the form of a hollow cylinder, is provided with an inner flange at one end and can be connected to the attachment element (50),
10 with the external diameter of the first flange element (66) being at least approximately of the same size as the internal diameter of the second flange element (68).

6. The drive apparatus as claimed in claim 4 or 5,
15 **characterized in that** the drive shaft (60) and the attachment part (50) or the motor shaft (183), the drive shaft (60) and the attachment part (50) are manufactured integrally, and are mounted such that they can rotate in a supporting bearing (81) which is provided in the mounting apparatus (80), possibly the
20 supporting profile (2).

7. The drive apparatus as claimed in claim 4, 5 or 6, **characterized in that** the motor shaft (183) or the drive shaft (60) is mounted vertically in the body (17) of the first drive
25 assembly (10a, 10b, 10c, 10d, 10e), possibly by means of a flange (63), such that forces which act are absorbed by the separating element (3).

8. The drive apparatus as claimed in one of claims 1 to 7,
30 **characterized in that** the motor shaft (183) is mounted by means of the body (17) of the first drive assembly (10a, 10b, 10c, 10d, 10e) at one end or at both ends of the electric motor (18), and is thus held aligned vertically.

9. The drive apparatus as claimed in one of claims 1 to 8,
35 **characterized in that** the body (17) of the first drive assembly (10a, 10b, 10c, 10d, 10e) has two parts (178, 179) which surround the electric motor (18), or in that the first drive assembly (10a, 10b, 10c, 10d, 10e) has an integral body

(17) which is suitable for accommodating and for holding the electric motor (18).

10. The drive apparatus as claimed in one of claims 1 to 9,
5 **characterized in that** the first drive assembly (10a, 10b, 10c, 10d, 10e) is provided with running rollers (11, 12) and/or guide rollers (13, 14) at one end or at both ends.

11. The drive apparatus as claimed in one of claims 1 to 10,
10 **characterized in that** a busbar (21; 121) which extends in the longitudinal direction of the guide rail (1) is arranged within the guide rail (1) in order to supply power to the electric motor (18), and is tapped by current collectors (33, 34) which are arranged on the first or second drive assembly
15 (10a, 10b, 10c, 10d, 10e and 90).

12. The drive apparatus as claimed in claim 11, **characterized in that** the busbar (21) is arranged at the top on the center piece (1030) of the guide rail (1), and is tapped by the
20 current collectors (33, 34) which are arranged on the upper face of the first or second drive assembly (10a, 10b, 10c, 10d, 10e and 90).

13. The drive apparatus as claimed in one of claims 1 to 12,
25 **characterized in that** a control unit (40) which is connected to the current collectors (33, 34) and to the electric motor is arranged on the first or second drive assembly (10a, 10b, 10c, 10d, 10e and 90).

30 14. The drive apparatus as claimed in claim 13, **characterized in that** the control unit (40), which is preferably in the form of a flexible circuit, is inserted within the single-shell or multiple-shell housing of the electric motor (18), of the drive assembly (10) or in an extension (1789) of the body or
35 of the housing (178, 179) of the drive assembly (10), which extension (1789) does not impede parked drive assemblies (10a, 10b, 10c, 10d, 10e) being moved with respect to one another.

15. A drive assembly (10a, 10b, 10c, 10d, 10e) having a drive

apparatus as claimed in one of claims 1 to 14.

16. A separating element (3) connected to a drive assembly (10a, 10b, 10c, 10d, 10e) as claimed in claim 15.

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